

A HAND-BOOK OF SCHEDULES AND
GUIDELINES IN SOCIO-ECONOMIC AND DIET SURVEYS

Miss B.V.S. Thimmayamma

NATIONAL INSTITUTE OF NUTRITION
Indian Council of Medical Research
Jamai-Osmania PO., Hyderabad - 500 007
India

1987

3754

Community Health Cell
Library and Documentation Unit
BANGALORE

A HAND-BOOK OF SCHEDULES AND
GUIDELINES ON SOCIO-ECONOMIC AND DIET
SURVEYS

Foreword

I Introduction

II Schedules & Guidelines for

1) Assessment of socio-economic
status of family

2) A note on the preparation for
local dietaries of events and
festivals

3) Assessment of qualitative
dietary pattern of family

4) Assessment of family dietary
intake by weighing method of
diet survey

5) Oral questionnaire (recall
method) of diet survey

Part-I Assessment of dietary
intake of individuals in the
family Miss B.V.S. Thimmayamma

Part-II Assessment of community
food distribution

6) Assessment of community
food distribution

7) Assessment of community
food distribution

8) Assessment of community
food distribution

III Conclusions

Acknowledgements

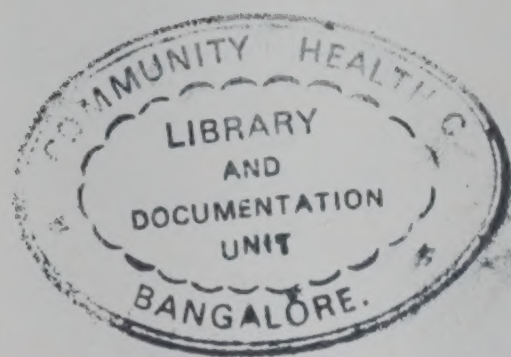
References



National Institute of Nutrition
Indian Council of Medical Research
Jamai-Osmania, P.O., Hyderabad-500007

.....

1987



3754

NUT 100

CONTENTS

Page No.

Foreword

I. Introduction 1

II. Schedules & Guidelines for,

1) Assessment of socio-economic status of family 4

2) A note on the preparation for local calender of Events and Festivals 12

3) Assessment of Qualitative dietary pattern of family 18

4) Assessment of family dietary intake by weighment method of diet survey 24

5) Oral questionnaire (recall method) of diet survey:

Part-I Assessment of dietary intake of individuals in the family 33

Part-II Assessment of intrafamily food distribution

6) Assessment of income and expenditure pattern on food and non-food items in the family 45

7) Institutional diet survey 51

8) Nutrient intake sheet 59

III Conclusions 64

Acknowledgements 65

References 66

F O R E W O R D

Any study of the diet and nutrition status of a population would first call for an initial survey of the socio-economic, cultural and dietary factors operating in that community. Follow-up studies after implementing intervention measures would require in addition the conduct of such surveys at different points of time. There is an immediate need for streamlined methods of carrying out such surveys.

Over the decades, the Community Nutrition Division of the NIN has undertaken extensive surveys of the socio-economic, dietary and nutrition status of urban and rural populations from different regions of our country. In the course of this, standardised time-tested schedules have been constructed for obtaining data on various aspects mentioned above. Guidelines for eliciting information regarding age assessment, using local calendar etc., have also been devised.

This handbook is a compilation of various schedules developed and tested by workers at NIN in carrying out diet and socio-economic surveys both at the family and the Institutional level. Apart from providing the prototype schedules, the document also provides clear guidelines for using them under field conditions. It is hoped that investigators undertaking such community studies would find the information contained in this Handbook highly useful in their work. This handbook will also be useful for training community health and nutrition workers in conduct of these surveys.

B.S. Narasinga Rao
B.S. NARASINGA RAO
DIRECTOR

Schedules and Guidelines for

Socio-economic and diet surveys

I. Introduction

Among several factors that influence nutritional status of individuals or families in the community, the socio-economic and dietary status are considered important. Proper assessment of these variables will help in understanding the nature and extent of the problem of malnutrition in a community, in its various aspects. This type of assessment is often carried out with the help of trained personnel using standardized procedures and schedules. Young (1975) has stated that, in any scientific investigation, designing of schedules and procedures is an essential prerequisite for data collection from large diverse and widely scattered groups of people. These schedules are generally accepted and filled out by research workers or the enumerators who can interpret the data so collected, when necessary. The schedules should be such that they are simple, useful and easy to administer under field conditions. Keeping these requirements in view, several types of schedules have been developed and used in various investigations over the years after pre-testing and making necessary modifications. It was considered worthwhile to compile these schedules in the form

of a hand book with appropriate guidelines, to be used by the investigators engaged in such studies. It will help the investigators to have better understanding of the methodological approaches before the start of study.

The present hand book is one such compilation of schedules and guidelines for socio-economic and dietary assessment of families in the community. In the following pages, schedule (1) deals with the collection of data for assessment of socio-economic status of family along with necessary guidelines. This forms the basis to build good rapport with the family for further field surveys among the families in the community. It is known that age assessment of subjects in diet and nutrition surveys is very important especially to find out dietary/nutrient adequacies/inadequacies of population groups and growth pattern of children. However, among illiterate population groups, especially in rural and semi-urban areas age assessment of subjects based on birth records/hospital records will be a problem due to non availability or improper maintenance of records. In such a situation alternative method of age assessment as accurate as possible has to be sought. Based on the surveys conducted earlier on the above aspect a simple local calendar of events and festivals was prepared for use in the field surveys², as shown in the

schedule (2). A note on the preparation of local calendar of events and festivals was also provided for the same.

It is known that food consumption pattern (diet) surveys form part of overall nutritional status of various population groups. Diet surveys if properly carried out provide information on qualitative pattern of diet, food habits and taboos prevalent in the community. Moreover, they point the inadequacies prevalent in the existing diet and nutrient intake of various population groups. This information on diet helps the administrators to plan certain welfare measures for providing supplementary feeding programmes for needy population. In view of this it is felt, that importance has to be given to the proper collection of data of various methods of diet survey. The schedules on different diet survey methodologies provided in the subsequent pages will be very useful for research workers and field investigators. Necessary guidelines are also provided to elicit information on the dietary intake and related factors for the family or individual in the community and the homogenous groups of population residing in institutions. Procedures for calculation and interpretation of the data are also provided for easy reference.

II SCHEDULES AND GUIDELINES

Assessment of Socio-economic status of family

Assessment of socio-economic status of a family in diet and nutrition surveys will be useful in understanding the existing family situation and to find out the factors that influence diet and nutritional status of family members. Carefully conducted surveys on socio-economic profile would also help to provide ways and means to improve the dietary and nutritional status of an individual or family as a whole. In assessing the socio-economic status of a family, the research worker/investigator should consider important variables such as occupation, income, family size and composition, literacy level, housing and environmental conditions. It is necessary to emphasize proper collection of data on these variables, since they might directly influence diet and nutrition profile of family.

Schedule (1) contains details of assessment of socio-economic status of family, taking into consideration above mentioned variables. Necessary guidelines for filling the schedule are also provided in the subsequent pages.

**NATIONAL INSTITUTE OF NUTRITION
Indian Council of Medical Research
Jamai-Osmania, Hyderabad-500 007**

1. Schedule for assessment of Socio-economic Status of Family

I. Identification Particulars

1. **Date:**
2. **S.No.:**
3. **Name of the Head of the family:**
4. **Address:**
5. **Community:**
6. **Religion:**

7. Place of Survey:
a) (Village/Town/City):

- b) Block:
c) District:
d) State:

II. Socio-economic details of family members:

[illegible]

* Includes sources such as income from agriculture, cattle-wealth, poultry and house-rent.

*Other Sources of income:

Agriculture:

Land owned : Yes/No : If yes, number of acres of

a) Wet land (acres)

b) Dry land (acres)

Types of crops grown

Crossing pattern :

Paddy
Wheat
Jowar
Other millets
Pulses
Vegetables
Commercial crops' (specify)

No. of acres cultivated:

Cultivation during the year	Once - Twice-
	X X

Yield per acre (bags/quintal)

Local market value (Rs. per bag/quintal):

Net yield (bags/quintals/Rs/year):

Cattle Wealth :

Animals

Other (specify)

Sheep

Goat

Buffalow

COW

Number:

Yield of milk (ml) per animal/day :

Cost per litre (Rs)

Net income (\$/pm)

Poultry:

No. of chicken

No. of eggs/day

Cost of an egg (P.s.)

Net income (Rs/p.m)

House rent received:

Yes/No.:

If yes,

Rs.....p.m.

(if any)

* Net income = Gross income - Expenditure on Agriculture/cattle wealth/poultry etc).

III. Housing conditions :

Type of House	Roof Walls	Thatched & mud-built	Tiled & brick-built	Masonry house/building	Bungalow type
Staying in a rented house	Yes/No	If yes, House Rent paid: Rs.		/month	
No. of living rooms		Separate kitchen:	Yes/No		
No. of windows		No. of ventilators		

IV. Sanitary conditions :

Sources of drinking water	Own well	Public well	Tank/River
Lavatory facilities	Own tap	Public tap	
Drainage facilities	Own W.C./Public latrine/Open field		
	Yes/No		

V. Other facilities :

Electricity facilities	Yes/No
Recreational facilities	Owns a radio or transistor/T.V./Community Radio
Transport facilities	Owns a Bullock cart/bicycle/motor bike/car

Others (specify)

Guide to the schedule for assessing the
socio-economic status of the family

The following points are to be remembered by the worker in filling the schedule on the socio-economic status of the family :

I. Identification particulars

1. Date: Date, month and year of contact during the survey period.
2. Serial number: Serial number of the family in the sample.
3. Name of the Head of the family: Person, who is the principal earning member of the family, Viz., Husband.
4. Address: Family name, house number, locality and any other indication necessary for follow-up visits.
5. Community: Name of the community to which the family belongs. In most cases it coincides with caste and the traditional occupation.
6. Religion: Hindu/Muslim/Christian/Others (specify)
7. Place of survey:
 - a) Name of the village, town/city;
 - b) Block
 - c) District and
 - d) State.

II. Socio-economic details of family members

1. S.No. : Serial number of family members.
2. Name of the family member: First, write the name of Head of the family and then others.

3. Relationship to the Head of the family: Relationship i.e., wife/son/daughter/grand-son or grand-daughter etc.
4. Sex: Male/Female.
5. Age: Use local calendar of events and festivals and other sources (see note (2) on local calendar of events and festivals) for assessing the ages of infants and young children and other members in the family.
6. Marital status: Married/Unmarried/Widow/Widower or divorced.
7. Education:
 1. Illiterate: No education at all
 2. Literate: For formal education, mention number of years in schooling or qualifications if any.
8. Occupation: In case, the individual has two occupations (a) main and b) subsidiary), the same in the respective columns. c) Any other sources of income such as agriculture, cattle-rearing, or poultry or house-rent etc., should also be mentioned.
9. Total Income: Assess total income of family in cash/kind depending on source of income, and on the basis of payment of wages/salaries of all individual members in the family, per day/week/month/year. Wages received in kind (for eg. bags/quintals) of paddy or any other local/measures) can be converted into equivalent income depending on the local market rate of paddy or any other food-grain received.
10. Physical activity^{*}: Mention type of activity - Light activity/Moderately active/very active and exceptionally active.

11. Physiological status: For mother: Pregnant/Lactating/
Non-pregnant and onon-lactating.

For child: Solely breastfed/partially breastfed/
completely weaned.

12. Remarks:

- a) Indicate if there are any absentees/guests. Also mention if the member is out of station, or not sharing meals because of illness.
- b) Mention local event/festival, i.e., 'Dasara 1978' or any other festival and year for the respective subject as the space will not be enough in the age column, to assess the ages.

III. Housing conditions: Record the condition of the house both by interview and also by observation.

IV & V. Information on Sanitary conditions and availability of other facilities would help to assess the overall socio-economic status of the family.

Types of Physical Activity:

Examples :

Light activity: Teachers, clerks, doctors, lawyers, shop keepers,
Housewives with mechanical household appliances.

Moderately active: Students, workers in light industry, building workers, fisherman, housewives without mechanical appliances.

Very active: Some agriculture workers, unskilled workers,
factory workers, army recruits, mine and
steel workers, dancers, athletes.

Exceptionally active: Lumber jacks, blacksmiths, construction
workers, Rickshaw pullers.

2. A Note on the preparation of Local Calendar of

Events and Festivals

In public health nutrition surveys, proper age assessment of the subjects in urban and rural areas forms an important factor. Ages of the subjects can be assessed basing on birth registers, baptist records, hospital records and also home records in urban areas. In rural areas, birth registers are the usual source of age verification if they are maintained properly. The habit of keeping a home record of a birth event can be seen only among the educated few. In such circumstances, alternate methods have to be used to assess the ages of the subjects as accurately as possible. Culturally there are several festivals and local events celebrated through out India, almost by every community depending on regional customs and tradition. Available literature has shown that age assessment of pre-school children in rural areas can be carried out easily and as accurately as possible with the help of a local calendar of events and festivals^{2,3}. The practical use of this calendar has been found to be of great importance in several community nutrition surveys in the field. The age of the subject can be assessed to the nearest month in a given year, at the time of contact on the basis of this calendar.

For example, assess the age of a pre-school child as follows, with four simple questions to the mother.

Questions to MotherResponses of Mother

- | | |
|---|------------------------|
| 1. How old is the child? | 2 years |
| 2. Has the child completed
2 years or is he going
to complete ? | Completed 2 years |
| 3. If yes, when did he
complete? (By which
festival or local event) | By Dasara |
| 4. Is it before/after
Dasara? | 10 days before Dasara. |

If the date of contact of the survey is 10th January 1980, refer back to the local calendar of 1977 to find out when Dasara festival occurred. The estimated age will be around 2 years 3 months. As far as ages of older children are concerned, spacing between births will give a better estimate after assessing the ages of pre-school children using this type of local calendar. Table - 1 indicates the local calendar prepared for the year 1981.

Similar type of local calendar of events and festivals can be prepared every year or for previous five years and kept ready for use, before the start of any community nutrition surveys. The following points may be kept in view while preparing a local calendar of events and festivals:

1. Take one year as a reference period.
2. List out the names of the 12 months of the year in the regional languages i.e., Telugu and Urdu and also corresponding English months (i.e. January-December) along with dates for easy reference.

3. The two fortnights of each month as indicated by planetary movements i.e. New Moon (Amavasya ●) and Full Moon (Purnima ○) may be mentioned.
4. Make a list of all the local festivals and events, monthwise and date-wise, that are usually celebrated by the community according to its cultural practices.
5. Mention also, certain events, indicating the change of seasons, harvesting patterns and festivals for local village deity.
6. Public events/holidays at the state/national level have also to be included as they are remembered well by the community.
7. Sometimes, dates/period of events referring to eclipses, floods or famines can also be indicated.

Table - 1Local Calendar of Events and FestivalsYear - 1981

<u>Telugu months</u>	<u>English months & date</u>		<u>Local Events/ Festivals</u>
Margasira Masam	January	1	New Year's Day
		6	Amavasya
Pushyam		7	Local month starts
		12	Guru Gobind Singh's Birthday
		13	Bhogi
		14	Sankranthi
		15	Kanumu
		19	Milad-un-Nabi or Id-e-Milad
		20	Purnima
		26	Republic Day
		30	Gandhi Vardhanthi
Magham	February	4	Amavasya
		5	Local month starts
		11	Radha Sapthami
		18	Guru Ravi Das Birthday
		18	Purnima
Phalguna Masam	March	4	Maha Shivarathri
		6	Amavasya
		7	Local month starts
		20	Purnima
		21	Holi
	April	4	Amavasya
		5	Ugadi (Telugu New Year's Day)

Chaitram		5	Local month starts
		12	
		13	Sri Rama Navami
		19	Purnima
	May	4	Amavasya
Vaisakham		5	Local month starts
		17	Sri Narsimha Jayanthi
		18	Hazrat Ali's Birthday
		18	Purnima
		24	Rohini Karthi
	June	2	Amavasya
Jeshtam		3	Local month starts
		17	Purnima
		17	Yeruvaka Purnima
	July	1	Amavasya
Ashadha		2	Local month starts
		4	Ramzan
		17	Purnima (Vyasa purnima)
		31	Amavasya
		31	Jamat-ul-vida
Sravana Masam	August	1	Local month starts
		14	Varalaxmi Vratam
		15	Purnima
		15	Independence Day
		22	Sri Krishnastami
		23	
		29	Amavasya
Bhadrapad Masam		30	Local month starts
	September	2	Vinayaka Chethurthi
		11	Onam
		14	Purnima
		28	Mahalaya Amavasya

Aswadyuja Masam	October	29	Local month starts
		2	Mahatma Gandhi's Birthday.
		6	Durgestami
		7	Maharnavami
		8	Vijaya Dasami
		9	Bakri-Id
		13	Maharshi Valmiki's Birthday
		13	Purnima
		26	Naraka-Chaturthi
		27	Diwali Amavasya
		28	Local month starts
		28	Govardhan Puja
		29	Bhaiya Duj
Kartika Masam	November	31	Nagula Chavithi
		1	Andhra State Formation Day
		11	Gurunanak's Birthday
		11	Purnima (Kartika Purnima)
		14	Nehru's Birthday
		26	Amavasya
		27	Local month starts
Margasira Masam	December	1	Guru Tej Bahadur's Birthday
		11	Purnima
		25	Christmas
		26	Boxing Day
		26	Amavasya
		27	Local month starts
Pushya Masam			

3. Schedule for assessment of Qualitative
dietary pattern of families

Collection of data regarding family dietary pattern gives us information mostly on the quality of diets consumed and various food beliefs and taboos that are prevalent among the community. This would be in the later part, helpful in interpreting the individual dietary intake in a more realistic manner. It is also necessary to collect data on various socio-economic factors related to the existing family dietary situation. This schedule takes into consideration collection of data on socio-economic details of family, frequency of usage of foods, sources of obtaining foods and cost of foods . Information on prevailing cost of foods helps to calculate approximate expenditure on food items of the families. Data on opinions of housewives regarding the use/avoidance of foods during special conditions indicates their socio-cultural practices taboos, and their knowledge in the treatment of minor illnesses with diet or other sources if any.

Identification particulars :

S.No. _____ Date: _____

Name of the village/ _____ Block: _____ Dist: _____ State: _____

Urban area _____

Name of the Respondent: _____

Address: _____

Socio-economic status of family:

Occupation of the head of the family:

Family size and Composition :

Age groups (yrs)

	0-1	1-5	5-12	12-18	Adults	Total	No. of earning members	Total family income Rs/p.m.
Sex:								
Males								
Females								
Total								

Educational level:

Type of family: Nuclear/Extended/Joint

Physiological status of woman: Pregnant/Lactating/Non-pregnant&Non-lactating

Number of absentees/guests/servants/pets in the family :

Dietary pattern of the Family :

[illegible]

4. Opinions on the Use of Foods during special conditions

	Foods used	Reasons	Foods avoided	Reasons
PREGNANCY				
LACTATION				
INFANCY				
CHILDHOOD				
ADOLESCENCE				
ILLNESS (Specify)				

Guide to the Schedule on Qualitative dietary pattern
of Families

Following are some of the important points that are to be remembered while assessing family dietary pattern:

Part I : 1 & 2

Identification particulars and assessment of
socio-economic status family

Refer to the guidelines given for the
schedule¹ on socio-economic status of
the family.

Part II : 3. Dietary pattern of the family

- | | |
|---------------------------------|--|
| 1) Food items: | List the food items under different categories such as cereals, pulses and legume and green-leafy vegetables etc. For each category under <u>others</u> , mention the name of the particular food item used. |
| 2) Frequency of usage of foods: | Ask the respondent regarding the number of days a food item is used, during a week/month. Put a mark (✓) against the respective food item that is used. Mention the season i.e., summer/winter/rainy. |
| 3) Sources of getting foods: | Mention place, i.e. from own land and or kitchen garden or purchased from local market |
| 4) Raw quantity per day (g/ml): | Total quantity of each food item generally consumed by the family per day (i.e. from Early morning to Dinner). |
| 5) Cost per kg. | Cost of various food items per kilogram. This assessment helps to calculate the cost of diet and the expenditure on food. |
| 6) Type of preparation: | Mention the name of recipe. Information on various types of preparations would be useful in knowing the dietary pattern and cooking habits. |

4. Opinions on the
use of foods
during Special
conditions :

Obtain information on various beliefs and taboos attached to the use or avoidance of various foods during different physiological conditions with specific reasons. Similar type of information during specific types of illnesses such as fever, measles etc. can be recorded. This will be more useful in assessing the attitude towards the diet and socio-cultural factors associated with it.

4. Schedule for family dietary intake by Weighment Method of Diet survey

One of the conventional methods of diet survey generally followed for assessing the family dietary intake, is weighment method. This can be also undertaken at institutional level where homogenous groups of population partake meals from the same kitchen. It is ideal to undertake weighment of both, raw and cooked food items, to arrive at the intake of family/institution as accurate as possible. However, weighment of cooked foods at the family level has its own limitations because of certain food beliefs, superstitions and time constraints. In view of this it was found practicable to undertake weighment of raw foods (edible) before they are being cooked. After obtaining the cooperation of housewife and assessing the socio-economic status of the family, all the raw food items (edible) are weighed according to meal pattern (i.e., breakfast, lunch, evening tea and dinner) for the day of survey using pan/grocer's type of balances and local measures. The duration of survey has been suggested as one day for rural areas and 3 days for urban areas, taking into consideration the monotony and variations in the dietary pattern of families⁵.

Details of age, sex type of activity and physiological status of family members who partake the meals are taken into consideration for purpose of calculating intake per consumption unit (adult male) or per caput (person) per day. Additional information on types of preparation is also collected to assess the dietary pattern of families. The schedule (3) contains details of assessing socio economic status of families (part 1) and carrying weighment method of diet at the family level (part 2) alongwith necessary guidelines.

NATIONAL INSTITUTE OF NUTRITION
Indian Council of Medical Research
Hyderabad 500 007

Identification particulars: 4. Schedule for Family Dietary Intake (Weighment method)

Date:

S.No.:

Name of the Head of the family:

Community:

Religion:

Part I : Socio-economic status of the family

Address:

Place of survey:
(village/Town/city)

Block:

District:

State:

Socio-economic details :

Sl. No.	Name of the family members	Relation to the Head	Sex M/F	Age yrs. ^{ms}	Educational level	Occupation		Total* Income Rs./mth	Physi- cal status	Physio- logical status	Remarks	C.U.*
						Main	Subsi- diary	Other sources [@] of income				
1.												
2.												
3.												
4.												
5.												
6.												
7.												
8.												
9.												
10.												

@ includes other sources such as agriculture, cattle-wealth, poultry and house rent.

* Consumption Unit.

Family size:
Total Consumption Units:

Raw amounts (edible) weighed/measured (g/ml)													
Food groups	1 st day			2 nd day			3 rd day			Total intake (g/ml) 1 day 3 days	Intake per CU/ caput per day (g/ml)	Food items not weighed/measured but informed by oral questionnaire	Additional information
	BF	L	ET D	BF	L	ET D	BF	L	ET D				
<u>CEREALS:</u> Rice Wheat Jowar Ragi Others													
<u>PULSES:</u> Red gram dal Bengal gram dal Black gram dal Whole grams (Specify) Others													
<u>GREEN LEAFY VEGETABLES (specify)</u>													
<u>ROOTS & TUBERS:</u>													
<u>OTHER VEGETABLES: (Specify):</u>													
BF - Breakfast ET - Evening Tea													
L - Lunch D - Dinner													

[illegible]

Guide for the schedule of family dietary intake
by weighment method of diet survey

Part-I	Socio-economic status of the family	Refer to the guidelines given in the schedule (1) for socio-economic status of the family. Last column added to this schedule refers to Consumption Unit (C.U.).
Part-II	Family dietary intake by weighment method of diet survey	In this method, weighment of raw food (edible) before cooking, is carried out for complete day(s) of survey. The period of survey among families in urban areas may be for 3 days, while it may be for 1 day in rural areas. During the survey period, do not include festive days/holidays, as the dietary pattern may differ from the usual pattern. Before weighing food items, obtain information on types of preparations. Raw food items can be weighed/measured using a pan/grocer's type of balance. Accuracy can be adjusted to the nearest 1 gm. Ounce glasses or measuring cylinders can be used to measure the liquid food items. Sometimes household measures can also be used where necessary.
	Raw amounts (edible) weighed/measured (g/ml): (Table - 2)	Record the amounts of foods that are weighed/measured in the respective columns i.e., Breakfast (BF), Lunch (L), Evening Tea (ET) and Dinner (D) during the day.
	Total intake (g/ml) (1 day/3 days)	This refers to 1 day in rural areas and 3 days in urban areas. The results of family diet survey by weighment method are expressed as intake per (C.U.) per day. This is arrived at using the following procedure.
	Intake per C.U./day	$= \frac{\text{Total intake of each food item (raw)}}{\text{Total consumption unit} \times \text{Number of days of survey (i.e. 1 day for rural areas)}}$

In order to arrive at total consumption unit of the family, age, sex, type of activity and physiological status are taken into consideration. Consumption units (C.U.s) for different age groups based on calorie requirements are provided in the Nutritive Value of Indian Foods by Gopalan et al (1982). An example of how to compute total C.U. of a family and of 5 members arrive at intake per C.U./day is given below. The intake may also be expressed as intake per caput (person) per day.

Example: Family size = 5.

	Age group of children (yrs)					
	Adult male	Adult female	1-3	7-9	12-21	Total
Family composition	1	1	1	1	1	5
Type of activity	Moderate	Moderate				
Physiological status		Non-pregnant & Non-Lactating (NPNL)				
Equivalent consumption unit (C.U.)	1.2	0.9	0.4	0.6	1.0	4.1

During the survey in this particular family, if the total intake of rice for the family is 1500 gms, calculate the intake as follows:

$$\text{Intake of rice per C.U./day} = \frac{\text{Total intake of rice (g/day)}}{\text{Total C.U.}} \quad \text{i.e., } \frac{1500}{4.1} = 366$$

$$\text{Intake of rice per caput/day (g)} = \frac{\text{Total intake of rice}}{\text{Total family size}} = \frac{1500}{5} = 300 \text{ g}$$

Foods not weighed/measured but information obtained by questionnaire:

In some of the families, it may not be possible to weigh/measure all the food items on the day of survey. This is because of time constraints, non-availability of foods for weighing or lack of purchasing power of the family etc. In such a situation this weighing method becomes partly weighing and partly questionnaire. So, obtain information on the foods that are consumed already or going to be consumed for the day and put a mark (✓) against those food items.

Additional information:

Refers to opinions of food habits.

Types of preparations:

Mention the name of preparations made according to meal pattern for each day of survey.

Edible portion of commonly used foods

Before conducting diet surveys, especially the weighment and oral questionnaire methods, it is essential, that the investigator should have the knowledge of commonly used foods, and various types and methods of preparations. This requires standardization of edible portion of various types commonly used foods such as green leafy vegetables, roots and tubers, other vegetables etc. Information on edible portion of raw foods will be useful in assessing the intake of family/individual as accurate as possible. The following points may be taken into consideration while standardizing edible portion of raw foods:

1. Take the total weight of raw foods as purchased.
2. Remove the wastage (unedible portion) that is commonly allowed.
3. Weigh the edible portion and calculate percentage of edible portion.

$$\frac{(1.e. \text{ Edible portion (g) } \times 100)}{\text{Total weight (g)}}$$

4. Assess the weight (g) per bundle (in case of green leafy vegetables) or unit of edible portion of various foods.

The above procedure may be repeated according to seasons to find out the differences in the average weight of green leafy vegetables, other vegetables or other food items

Table 2
Edible portion of some commonly used foods.

Example:

Food items	Total Weight as purchased		Wastage		Edible portion		Wt. per bundle or unit (g.)	Range
	(g)	No.	(g)	Wt.	%	(g.)		
Spinach	4928	180 (Bundles)	1058	3870	79.0	22	11-51	
Brinjal (Medium Size)	1662	32	310	1352	81.0	32		
Onion(,,)	3515	100	538	2979	85.0	30	21-45	
Potato (,,)	1400	25	199	1201	86.0	48	37-59	
Banana Ripe (Green Variety)	835	9	240	592	71.0	66	60-67	
Tomato (medium size)	2533	65	0	2533	100.0	39	30-45	
Egg (hen) ")	2115	48	244	1971	89.0	48	22-77	

Edible portion of raw food items can also be filled in each of the diet survey cups and standardized. This would help the mother to indicate the raw amounts (edible) used by the family, in case she is unable to report in local measures/ metric units such as 1/4 kg. or 1 kilo etc. of rice or 50 grms. of spinach etc. .

Table - 3

Example:

Edible portion of raw foods according to cups

	(Cup Numbers) .											
Foods	1	2	3	4	5	6	7	8	9	10	11	12
Spinach (Edible portion including weight of cup, (g)).	462	372	272	210	152	117	112	75	62	48	50	23
Weight of empty cup (g)	200	170	130	110	80	60	65	40	35	30	35	15
Net weight (g) of spinach	262	202	142	100	72	57	47	35	27	18	15	8

5. Schedule for oral questionnaire (Recall)

method of Diet survey

Part I (Assessment of dietary intake of an individual(s) in the family)

Among several methods of diet survey, oral questionnaire (Recall) method was observed to be practicable and useful in assessing the dietary intake of an individual(s) in the family. This is mainly because, it is less laborious and less time-consuming. The results of this method are more or less the same as those obtained by weighment/observation method, provided, the information is collected by a trained investigator.⁵¹

Through this method, dietary intake data for the previous 24 hours can be collected from the housewife with the help of a set of standardized cups (approximately 12 in number of varying sizes). These cups may be standardized both for volume and raw rice equivalents for easy estimation. Since the individual shares some amount out of the total cooked amount of each preparation for the family as a whole, information has to be obtained both for the family and individual. Data on the names of preparations and raw amounts of each ingredient used by the family may be obtained. The total cooked amount and individual intake can be assessed by exhibiting the standardized cups before the housewife. Based on this data, raw equivalents of food items and nutritive^{Value}/of foods can be calculated.

Part I :

The schedule (part 1) contains details regarding the assessment of dietary intake of an individual (child) in the family.

Depending on the age of the subject, necessary details regarding the physical and physiological status can also be obtained for assessing the adequacy/inadequacy levels.

Part II - Intra-family Food distribution :

Assessment of dietary intake of all individuals in the family, (intra family food distribution) who are partaking the meals, would help to assess the intake as well as adequacy/inadequacy levels according to specific age groups. Comparisons of adequacy or inadequacy levels of the intake of husband/wife/child within the family would also help to assess the extent of maldistribution or otherwise, of food. Dietary data collected for the family members as a whole, would be useful for purpose of nutrition education also.

The procedure for assessing the intake of all members in the family is the same, as that provided in the part 1 of the schedule. However, ⁱⁿ part II of the schedule, additional information on left-over amount of preparations may also be collected to assess the total family intake. Guidelines for filling part I and part II of the schedule are also provided.

5. Schedule for Oral Questionnaire Method of Diet Survey

Part I. Assessment of dietary intake of an individual (child) in the family

1. Identification particulars :

Date
Place (Town/City/Village) District Block State
Name of child
Name of Father/
Guardian Age (yrs-mts) Sex
Address

2. Socio-economic details of family :

Occupation Father Mother Other sources of income
Total income (Rs./ps)

Family Composition: Age group (yrs.)
0-1 1-3 3-5 5-7 7-9 9-12 12-21 21 Total
Male
Female

3. Breastfeeding status of the child: SBF/PBF/Weaned

Relationship and age of the person feeding the child when the mother is away for work : Relationship Age(yrs)

4. Dietary intake :

Meal pattern	Amounts used by the family, previous day				Intake of an individual(ch	
	Name of prepara- tion	Ingre- dients used	Raw amount g/ml	Cooked quan- tity g/ml	Cooked quantity g/ml	Raw equiva- lents g/ml
Early morning						
Breakfast						

Meal pattern	Amounts used by the family, previous day				Intake of individual (chi	
	Name of prepara- tion	Ingre- dients used	Raw amount g/ml	Cooked quantity g/ml	Cooked quantity g/ml	Raw equiva- lents g/ml
Mid-morning						
Lunch						
Tea & Snacks						
Dinner						
Others) (Meals/snacks taken outside home)) Supplements from any of the feeding programmes if any (specify)						

5. SCHEDULE FOR ORAL QUESTIONNAIRE METHOD OF DIET SURVEY

Part II. Assessment of intra-family Food Distribution

Identification particulars

Date:	S.No.:
Place	Name of the
(Village/Town/City):	Head of the
Block:	family :
District:	Address :
State:	

Socio-economic details of Family members

No. Name	Relation- ship to the head	Age (yrs)	Sex	Occupation	Total Income Rs./ps.	Educational level
1						
2						
3						
4						
5						
6						
7						

[illegible]

[illegible]

Guide to schedule for Oral Questionnaire (Recall) method of
Diet Survey

Part I: Assessment of dietary intake of an individual in the family.

Part II: Schedule for the Intra family Food Distribution.

Part I

1) Identification particulars and (2) Socio-economic details:

Follow the guidelines given for schedule (1) on assessment of socio-economic status of family.

3) Breast Feeding status: In case of children, mention about the breast feeding status i.e., solely breastfed (SBF), partially breastfed (PBF) and completely weaned (W). Collect also, information on the age and relationship of person feeding the child, if the mother is away for work.

4) Dietary intake: Assess the dietary intake of an individual (child) in a family for the previous 24 hours. It is preferable to interview the housewives in the morning hours, otherwise most of them may be going out for work during mid-morning.

Meal pattern:

Early morning, breakfast, mid-morning, lunch, tea and snacks and dinner. Others: refer to meals and snacks taken

outside the house. Also obtain information on the house and quantity of supplement if the child is a beneficiary of any Supplementary Feeding Programme.

Amounts used by the family previous day:

Type of preparation: Method of preparation may differ from family to family. So, mention exact name of that particular preparation made previous day, according to meal pattern.

Ingredients: Indicate name of ingredients that were used in each preparation.

Raw amounts (g/ml): Assess raw amounts of foods used by the family, in terms of local standard measures, such as 1/4 litre; 1/2 litre, 1 litre, 1/8 litre, or 1/4 kg; 1/2 kg; 1 kg, or sometimes in numbers i.e. 2 medium sized tomatoes and record in the schedule the actual amount in the respective columns. Wherever necessary, use of standardized cups to assess raw amounts may be helpful if mother is illiterate or unable to mention about the local measures. Standardization of edible portion of raw amounts will be useful in assessing the amounts of ingredients used as the preparations (e.g., 4 bundles of spinach (palak), edible portion=100 gms; 2 Medium sized Tomatoes=70 gms).

Total cooked quantity (g/ml): To assess the total cooked amount, for preparations like tea/coffee/milk or any other beverage or

soft drink, or dal/sambar/curries and the intake of individual, use the volume figures of standardized cups. However, for intake of rice of an individual, the raw equivalents of rice of standardized cups may be used straight away^(a). Preparations like chapatis may be assessed in total numbers. Under field conditions, volume and weight may have to be considered as one and the same.

Individual dietary intake, cooked^{amount} (g/ml):

Assess the individual intake of each preparation in terms of cooked amount with the help of standardized cups i.e. for rice, dal, curries/beverages etc. Preparations like chapatis can be assessed in numbers. Calculate the raw equivalents from intake of cooked amounts in the following way:

Raw equivalents:

$$\frac{\text{Individual intake in terms of raw amount (g/ml)}}{\text{Total raw amount of each ingredient used in the preparation by the family (g/ml)}} \times \text{Individual intake (cooked amount g/ml)} = \text{Total cooked amount of each preparation (g/ml)}$$

Ex.	Name of preparation	Ingredients	Raw amounts g/ml	Total cooked amount (g/ml)	Individual intake (cooked) g/ml
	<u>Tea</u>	Milk	250	Cup ₁ (1400)	C ₇ (200)
		Sugar	60		
	Individual intake (Raw equivalents) (g/ml)	Milk	$= \frac{250 \times 200}{1400} = 36 \text{ ml.}$		
		Sugar	$= \frac{60 \times 200}{1400} = 8.6 \text{ g.}$		

4

② Use of Standardized diet survey cups

Standardization of cups for volume:

Take a set of 12 diet survey cups and mark the edges of all cups to a particular level. Fill each of the cups with water and measure the water in each cup with a measuring cylinder of 100 ml or 500 ml capacity to know the volume of the cups.

Standardization of cups for raw rice:

Example: Take 500 g. of raw rice, cook it with known amount of water, weigh the net cooked amount, after subtracting the weight of empty vessel and calculate the conversion factor as follows:

Raw rice (g)	Water used (ml)	Total cooked amount with vessel (g)	Wt. of empty vessel (g)	Net weight of cooked amount (g)	Conversion factor (Raw/ cooked)
500	1500	2600	600	2000	$\frac{500}{2000} = 0.250$

Take a set of 12 cups of varying sizes, mark the edges of the cups to a particular level and fill each of the cups in a uniform way with cooked rice and weigh them. Deduct the weight of the empty cup from the total weight of cup with rice and convert the net cooked amount in each cup to raw amount by multiplying it with the conversion factor.

Values of Standardized cups used in Diet surveys

Cup Number	Volume (ml)	Cooked Rice(g)	Raw Rice equivalents (g) [*]
1	1400	947	231
2	1035	803	196
3	750	508	124
4	520	335	82
5	350	287	70
6	235	182	44
7	200	143	35
8	140	98	24
9	105	77	19
10	82	52	13
11	65	40	10
12	30	22	5

* Raw rice equivalents in each cup(g) = Cooked rice in each cup X Conversion factor
i.e. Cup No. 1 = 947 X 0.25 = 231

METHODS OF DIET SURVEY



Inventory Method



WEIGHMENT METHOD OF DIET SURVEY



ORAL QUESTIONNAIRE (RECALL) METHOD
OF DIET SURVEY



Observation and Weighment of Cooked Food
Intakes of Child



STANDARDIZATION OF EDIBLE PORTION OF FOODS



STANDARDIZATION OF CUPS FOR RAW RICE EQUIVALENTS

Part II: 1 & 2 Identification particulars socio-economic details of family. Follow the guidelines given for schedule (1) on assessment of socio-economic status of family.

3. Intra-Family Food Distribution: Assess the intake of all members in the family. Regarding the information of previous day's intake for meal pattern, type of preparations, ingredients used, raw amounts, and total cooked amounts of family follow the procedures given in part 1 of the schedule.

Food intake of individual members in the family cooked amount (g/ml): 1-7 columns under this, refer to family members. Start recording the intake of husband, wife and children of different age groups in the family including if any, who are partaking the meals.

Leftovers: Mention whether the left-over amount if any, of that particular preparation, is carried over for the next meal or given to outsiders/pet animals or thrown away.

The procedure for calculating the raw equivalents of food items of each and every member in the family is the same as the one mentioned for the intake of individual (child) in part I of this schedule.

Schedule for assessment of Income and
Expenditure pattern of food and non-food items
in the family.

Assessment of income and expenditure on food and non-food items will indicate the socio-economic and dietary status, which may influence nutritional status of a family. This information will be helpful to suggest ways and means by which, the existing dietaries of family can be modified towards a balanced diet, according to the purchasing power of a family. This schedule considers assessment of socio-economic status (part I) of family, wherein details of assessment of total family income are also given. Part II deals with the assessment of expenditure pattern on food and non-food items (part II), through interviewing procedures. Necessary guidelines for filling this schedule are provided in the following pages.

Part I : Socio-economic status of families

1. Identification particulars

Date:	Place (Village/Town/City)	Block	District	State
S.No.				
Name of the Head of the family				
Address	Community		Religion	

2. Socio economic details of family

Sl.No.	Name of family members	Relation to the Head	Sex	Age (yrs-mts)	Educational level	Occupation Major Subsi- diary Other* sources of incomes	Total Family income Rs./ per	Remarks
1								
2								
3								
4								
5								
6								
7								

*Other sources of income;

[illegible]

Part I. Assessment of Socio-economic Status of family (Refer to Schedule 1)

Part II Expenditure pattern on Food and Non-food items of the family

Date :

S.No. :

Name of the respondents :

Total family income (a)
(Rs/p.m.)

Income per caput (Rs/PM)
Family size

A. Expenditure on food items

Food items	Frequency of use per week (days/wk)	Quantity purchased		Cost per kg		Per caput intake of food (g/ml/day)	Per caput expenditure on food Rs./p.m.
		Per day (kg/l)	Per month (kg/l)	Rs.	ps		
<u>Cereals</u>							
Rice							
Pressed rice							
Puffed rice							
Rice ravva							
Whole wheat							
Wheat ravva							
Bombay ravva							
Whole wheat							
Flour (Maida)							
Jowar							
..agi							
Others (specify)							
<u>Pulses</u>							
Redgram dal							
Bengalgram dal							
Greengram dal							
Blackgram dal							
Lentil dal							
Whole grams (specify)							
<u>Others (specify)</u>							
<u>Green leafy vegetables (specify)</u>							
<u>Root vegetables</u>							
<u>Other vegetables (specify)</u>							

(a) Income from all sources (Refer to SES schedule -)

Food items	Frequency of use per week (days/wk)	Quantity purchased		Cost per kg		Per caput intake of food (g/ml/day)	Per caput expenditure on food Rs./p.m.
		Per day (kg/l)	Per month (kg/l)	Rs.	ps		
<u>Fruits (specify)</u>							
<u>Milk & Milk products</u> Cow's milk Buffalo's milk Dairy milk Other types (specify) Curd Butter milk							
<u>Fats & Oils</u> Butter Ghee Oil (specify)							
<u>Flesh foods</u> Meat Beef Chicken Fish (fresh) (dry) Egg							
<u>Nuts & Oilseeds</u> Groundnuts Sesame Coconut (fresh) (dry) Others							
<u>Condiments & Spices</u> Dry chillies Tamarind Salt Corriander seeds Pepper Turmeric Hing Others (specify)							
<u>Commercial Products</u> Tea powder Coffee powder Others (specify)							
<u>Other Miscellaneous</u>							

B. Expenditure on Non-food items

Items	Total cost per month		Per caput expenditure Rs./p.m.	Items	Cost per year		Per ca pend ture Rs./p.
	Rs.	ps.			Rs.	ps.	
House rent				<u>Durables</u>			
Fuel: Gas				Furniture			
Kerosene				Radio			
Charcoal				Sewing machine			
Coal				Cycle/other vehicles			
Others:				Household utensils			
Electricity				Clothing			
Medicines				Foot-wear			
Toiletry				Festivals			
Education (Tuition & Books)				Ceremonies			
Tailor				Travels			
Washerman				Savings			
Cobbler				Debts			
Barber				Others (specify):			
Servants							
Pets/animals							
Amusements & sports							
Conveyance							
Others (specify) :							

Guide to the schedule on assessment of Income
and Expenditure pattern of food and non-food items

Part I. Socio-economic status of family: Follow the guidelines given for schedule 1 for assessment of socio-economic status of family.

Part II : Expenditure pattern on food or non-food items of the family.

Date: Date of contact to the family selected.

S.No.: Serial number of selected family in the sample for the survey.

Name of the respondent: Person who is actively involved in family budgeting (Husband)/wife/mother-in-law/elder son/others (specify).

Family members: This refers to those number of members in the family who are partaking the meals.

Total family income: Assess the total family income from all
(Rs/p.m.) sources i.e. regular occupation (major/subsidiary) and other sources of income of all family members.

A & B: Expenditure pattern on food and non-food items:

Food items/non-food items : Some of the commonly used food items are listed under different categories of food groups. Similarly non-food items under various categories. Apart from these, mention, if any other food non-food item is used.

Frequency of usage of foods: Refers to number of days, the food items that are generally used in a week, i.e., 7/7 or 6/7 -----

1/7 (e.g. Rice, 7/7, wheat 1/7). If a particular food item is used once in 15 days/month/occasionally (i.e. 1/3 months)/during the festivals, or it is never used, mention the same against the respective food item.

Quantity purchased per day/month : Reference period may be previous day/week/month for food items and for non-food items, an year also, depending on pattern of purchase. Mention the quantities (kg/l) purchased for the family as a whole.

Cost per kg/l = Mention cost of each food item (Rs-ps), per kilogram/litre according to local market rates. For non-food items mention the cost (Rs. ps) incurred for purchase of that particular item.

Intake per caput/day (g/ml) $\frac{\text{Total amount of each food item purchased}}{\text{Number of members partaking meals}}$

Per caput expenditure on food Rs. per month $\frac{\text{Total family expenditure on food (Rs.-p.m.)}}{\text{Total family income (Rs. p.m.)} \times \text{Number of members partaking meals}}$

Per caput expenditure on non-food items Rs./p.m. Similar as above

Percentage of income spent on food per family (Rs./p.m.)

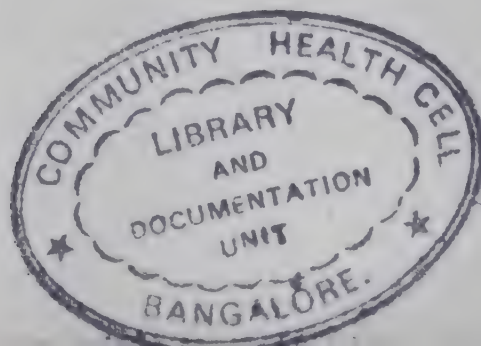
$\frac{\text{Total expenditure on food (Rs/p.m.)} \times 100}{\text{Total family income Rs./p.m.}}$

Percentage of income spent on non-food items (Rs./p.m.)

$\frac{\text{Total expenditure on non-food items (Rs/p.m.)} \times 100}{\text{Total family income (Rs./p.m.)}}$

NUT-100

3754



7. Schedule for Institutional diet surveys

Dietary studies undertaken among the inmates in an institution, (hostels or orphanages) provide information on the intake of homogenous groups of population who are partaking the meals from the common kitchen. Institutions may cater to different age groups of population belonging to different socio economic status. As such studies directed towards obtaining the information on meal pattern and the intake of inmates of the institution would be helpful in understanding and correcting the dietary deficiencies, if any. Institutional diet surveys are less time consuming and less laborious compared to community diet surveys. Dietary assessment of the inmates of the institution can be undertaken using the following two methods of diet survey:

- (A) Inventory Method (Food list method)
- (B) Weighment of raw and cooked foods.

A. Inventory method : Through this method, information can be obtained from the warden of the institution regarding menu pattern for a week and number of inmates partaking the meals. Data on recipes used, and total raw amounts of each food ingredient used in various types of recipes during the day based on the records maintained by the warden may be collected. Mention may be made about any additional inputs of amounts of foods and guests/absentees during the week. The information on food intake can also be obtained by weighment also.

B. Weighment method (raw and cooked foods) : Apart from inventory (food list) method, weighment of raw and cooked food in an institution will be more useful, since it provides information on the actual consumption pattern of individuals or homogenous groups of population. Weighment of foods can be undertaken for 7 consequent days to know the day-to-day variations in the dietary intake, if any. This can be repeated in the food consumption pattern. Weighment of raw foods (edible) used in each recipe according to meal pattern can be undertaken using a grocer's type or pan balance or other standard balances. The accuracy level of the balance can be adjusted to the nearest 1 gm. Similarly weighment of total cooked amount of each recipe can also be done taking into consideration weight of empty vessel. Based on this, conversion factor (CF) of each recipe can be calculated. Batches of children of specific age group (e.g. 10-11 yrs), and sex should be asked to sit at one table, and measured (weighed) amounts of each recipes be served to them. After the children have finished eating, left-over amounts, if any, should also be measured (weighed). Later on the intake per person (per caput)/day can be calculated taking into consideration the net cooked food consumed (i.e. total cooked amount served - left over amount). Raw equivalents of each food item can be calculated using the conversion factor (CF). Nutrient intake from the foods can be calculated using nutritive value of Indian Foods.

55

MENU PATTERN OF AN INSTITUTION FOR A WEEK

Date :

Age groups (years)

Name of the Institution :

1-5 5-12 12-21 21 Total (yrs.)

Address :

Male:

Female:

RECIPES USED ACCORDING TO MEAL PATTERN				
Days of the week	Breakfast	Lunch	Evening Tea & Snacks	Dinner
Monday				
Tuesday				
Wednesday				
Thursday				
Friday				
Saturday				
Sunday				

Part B. Weighment Method.

Total Number of kinmates

Age group (yrs)	Residents	Non-residents	Total
1-5			
5-12			
12-21			
M			
F			
21			
M			
F			

Dietary intake for all inmates of the institution

[illegible]

Break-
fast ()

Mid morning ()

Guide to the schedule on inventory method of
diet survey in an institution

1. Date: Duration of survey for inventory method may be a week/fortnight/month. If duration of survey is fixed for a week mention the dates of commencement and end of survey period.
2. Name of the institution: Mention the name of the particular institution or organisation selected for the survey.
3. Address: Locality, Door number and other easy identification particulars for future follow-up studies.
4. No. of inmates partaking the meals: This refers to those members who are sharing meals from the common kitchen on the days of survey. Mention age group and sex of the inmates also.
5. Diet: Foods: Few foods are listed under specific categories such as cereals, pulses etc. Apart from these if any food item is used mention the name of it.
Quantities: Mention the quantities (g/ml) of the foods obtained through registers or weighing for each day of the 7 days survey period.
Total: Add up each day's quantities of particular food item.

The results of the data obtained through this method can be expressed as intake per person (per caput) per day. The schedule contains details of inventory method and necessary guidelines are also provided.

Intake per person (caput)/day:

Total amount of each food (g/ml)
Total number of inmates

Menu pattern:

Mention the names of recipes that are to be used according to meal pattern for each day of the week.

Guide to the institutional diet survey

Part B. Weighment Method

- General information : Collect information on date of contact, name of the selected institution and location and door number of the institution.
2. Total No. of inmates : This refers residents and non-residents (day-scholars) who are sharing the meals from the same kitchen. Age group distribution of the inmates will be helpful in the subsequent coverage of population groups.

3. Dietary intake :

- A) Dietary intake of all inmates of the institution : Refers to dietary intake of all the inmates partaking the meals. Mention the name of the food preparation and ingredients used for each meal pattern. Weigh/measure the total raw and cooked amounts of each preparation for the institution as a whole, using standard measures/balances. Consider the intake from outside the institution also.

$$\text{Conversion factor} = \frac{\text{Raw amount (g/ml)}}{\text{The cooked amount (g/ml)}}$$

- B) Intake of children : Make children of specific group sit at one table (e.g. 10 children of 5-7 years). Serve cooked amounts of each preparation. Assess the net cooked intake taking into consideration left-over amounts.

- C) Average Intake per child per day (raw equivalents) (g/ml)

Total Raw amounts (g/ml)	x	Net intake of children (cooked amount g/ml)
<hr/>		
Total cooked amount (g/ml)	x	No. of children x No. of days of survey.

8. Schedule for Nutrient intake sheet

Apart from dietary intake, information on nutrient intake helps to find out the average intake of various nutrients of families/individuals belonging to different communities or socio-economic groups.

The nutrient intake can be calculated from intake of foods (raw amounts) of the subject using nutritive value of Indian Foods.

Depending on the method of diet survey followed, nutrient intake can be expressed as intake per C.U./or per caput per day. The intake of various nutrients can be compared with the suggested ~~Recommended~~ ^{Dietary} allowances (RDA) to assess the adequacy or otherwise of the diet as the Dietary allowances are made on basis of Age, Sex activity and physiological status. Information on sources of nutrients can also be ascertained from the nutrient intake which will be useful for purpose of nutrition education.

Guidelines for calculating the nutrient intake are also provided.

Guide to the schedule for Nutrient Intake Sheet

This refers to the nutritive value of foods of per C.U./caput or an individual per day.

Intake per C.U./ Refers to the intake of an adult Male
(C.U.) per day.

Intake per caput/ Refers to the intake per person per day.

Intake per indi- Refers to the intake of an individual of
vidual/day specific age group per day.

General particulars :

Date:	Date of contact of the family
Place:	Mention the name of village/town/ city
Block/District/state:	Mention name of the block/district/ state selected for the survey.
Name of the Head of the family :	Major earning member of the family.
Name of Institution :	Managerial head of institution.
Total C.U./family size:	Total consumption unit/total number of members partaking the meals.
Total number of inmates :	Total number of members partaking the meals in the institution.
Name of the individual:	Name of the individual included for the survey.
Age (yrs-mths):	Assess the age to the nearest months using local calendar of events and festivals.
Sex (Male/Female):	Put a mark (✓) to the particular male/female individual included in the survey.
Community:	Name of the community of the family. This usually coincides with the type of occupation.
Religion:	Hindu/Muslim/Christian/others (specify).
Type of activity:	Sedentary/Moderate/Heavy (Refer to the guidelines given in the schedule for socio-economic status).
Physiological status:	Mention the women is pregnant/ lactating/non-pregnant and non- lactating.

Breast feeding status:

Solely Breastfed (SBF) i.e., infant who is receiving only mother's milk
 partially Breastfed (PBF) i.e., infant who is receiving supplements in addition to mother's milk
 Weaned - Complete stoppage of Breast feeding i.e., The infant/child who receives only diet but not mother's milk.

Foodstuffs:

List out the names of foods consumed by the individual/per C.U./per caput, such as rice/wheat/jowar, redgram dal Spinach etc. Brinjal, Bananas, Mutton Fish, Groundnuts, (specify).

Quantity (g/ml) per day:

Mention the raw equivalent amount of foods consumed by an adult male (C.U. or per person or an individual of specific age group. The quantity can be mentioned to the nearest gram (g) or ml.

Nutrient intake:

Calculate the intake of Energy, protein, minerals and vitamins from quantities of foods based on Nutrition Value of Indian Foods? ().

Vitamin-A
 (Retinol, ug):

Some foods (such as cereals, pulses and green leafy vegetables contain vitamin-A in the form of Carotene (ug), while others (such as milk) contain vitamin-A in the form of retinol (ug). Egg contains both carotene and vitamin-A retinol. Calculate the carotene and retinol content of each food item separately and then finally express as retinol (ug). Convert carotene (ug) into retinol (ug) using the factor of 0.25, (i.e. carotene (ug) x 0.25 = Retinol (ug).

Total intake:

Add the intake of each nutrient from the foods listed.

Recommended allowances:

Refer to the suggested allowances of nutrients ICMR.

Percentage of recommended allowances:

$$\frac{\text{Intake of each nutrient}}{\text{Recommended allowances for Sedentary worker/for specific age group}} \times 100$$

Maintain throughout, uniform decimal points i.e., 0.0 for Energy, Protein, Calcium and Iron Vitamin-A and 0.00 for thiamine and Riboflavin, for purpose of easy addition.

III. Conclusions

Assessment of socio-economic status and dietary pattern in terms of quality and quantity forms an important component of comprehensive nutrition surveys and studies. A number of instruments and survey schedules are now available for the investigators desiring to undertake such studies. However, the choice of the method / instrument vary with the objective(s), the setting and the availability of resources at command of the investigator. The purpose of this brochure is to assist the primary worker / investigator in understanding the various steps involved in different methods and making an appropriate choice of the method / instrument to satisfy his or her survey / study needs. The guidelines for the administration of various types of schedules described are based on the result of practical experiences of the workers engaged in these types of activities.

The schedules that were listed deal with

- 1) assessment of socio-economic status of family
- 2) a note on the preparation of calendar of local events/festivals for proper age assessment.
- 3) and 4) Qualitative and quantitative dietary pattern and intake of families.
- 5) assessment of dietary intake of an individual and intra-family food distribution
- 6) assessment of income and expenditure pattern on food and nonfood items.
- 7) Institutional diet survey and
- 8) calculation of nutrient intake from the food intake

It is hoped that the contents of the brochure will be of immense use and help to research workers engaged in community nutrition and diet surveys.

A C K N O W L E D G E M E N T

The author expresses her thanks to Dr. B.S.Narasinga Rao, Director, for his keen interest and suggestions in the preparation of this handbook. The author also expresses her thanks to Dr. N. Pralhad Rao, Deputy Director and other members of Field Unit, for their useful suggestions.

REFERENCES

1. Young, P.K. (1975)
Scientific Social Surveys and Research,
Prentice Hall of India Pvt. Ltd., New Delhi.
2. Thimmayamma, B.V.S. and Nadamuni Naidu, A. (1974)
Age assessment of rural pre-school children by
the use of local calendars.
Ind. J. Nutr. Dietet, 11,264.
3. James, C., Cobey, A.B., and Nicholas Cunningham (1968)
An evaluation of a local calender used in
determining the ages of children in a Nigerian
village J. Trop. Ped., 14,132.
4. World Health Organization, (1973)
Energy Protein requirements - A Report of joint
FAO/WHO adhoc expert Committee.
Tech. Report Series No. 522.
5. Taskar, A.D., Swaminathan, M.C. and Shanta Madhavan (1967)
Diet surveys by weighment method - a comparison of
random day, three day and seven day period.
Ind. Jour. Med. Res. 50, 90.
6. Swaran Pasriche (1959)
An assessment of reliability of oral questionnaire
method of diet survey as applied to Indian Communities.
Ind. Jour. Med. Res. 47, 207.
7. Thimmayamma, B.V.S. and Hanumantha Rao, D (1969)
A comparative study of oral questionnaire method
with actual observation of dietary intake of pre-
school children.
Ind. J. Nutr. Dietet, 11,264.
8. Gopalan, C., Rama Sastry, B.V. and Balasubramanian, S.C. (1982)
Nutritive Value of Indian Foods, National Institute
of Nutrition, Indian Council of Medical Research,
Hyderabad, India.
9. Indian Council of Medical Research, (1981)
Recommended dietary Intakes of Indians.

